National Institute of Environmental Health Sciences

Influence of meteorological elements on osteoarthritis pain: A review of the literature

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Abstract:

Despite the frequent assertion that the weather conditions change the intensity of pain in osteoarthritis (OA), this influence is controversial and difficult to measure. This analysis aims to review articles related to the influence of meteorological elements in the OA pain. The literature review was performed with the bibliographical survey databases of the Medical Literature Analysis and Retrieval System Online (MEDLINE) and the Latin American and Caribbean Health Sciences (LILACS), and active search in the list of references of the articles and reviews retrieved. The inclusion criteria for this analysis were prospective studies that evaluated the presence of pain related to some variable of weather in OA patients. The articles were published in Portuguese, English, and Spanish. Of the 247 abstracts analyzed, eight (3.2%) included articles from the electronic database consulted (n Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 7), and active case finding (n Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 1). Atmospheric pressure was the most frequently variable with some influence on OA pain in five of the included studies, while precipitation was less related to the symptoms of OA; wind was not analyzed. Despite the methodological diversity and biases of the analyzed studies, there is a trend to confirm the influence of weather in OA pain intensity, mainly in more recent publications. Besides checking the effect of meteorological elements in the OA pain, it is necessary to evaluate the interference in daily activities and impairing of the quality of life.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Precipitation

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Other Health Impact

Other Health Impact: osteoarthritis (OA) pain

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Other Vulnerable Population: People with osteoarthritis

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content